Inland Fisheries Monthly Report – July 2016

Stock Assessment

Brook Trout Population Monitoring - The following streams were surveyed to monitor the status of their brook trout population:

- Unnamed tributary to Bear Creek – 93 adult and 160 young-of-year (YOY) brook trout per km.
- Crooked Run – 27 adult and 200 YOY brook trout per km.
- Laurel Run upstream of Jennings Randolph Lake – 293 adult and 120 YOY brook trout per km.
- Trout Run - 227 adult and 200 YOY brook trout per km.
- Riley Spring Run – 120 adult and 93 YOY brook trout per km.
- North Prong Lostland Run – 547 adult and 467 YOY brook trout per km.
- South Prong Lostland Run – 427 adult and 320 YOY brook trout per km.
- Lostland Run – 467 adult and 667 YOY per brook trout km.
- Laurel Run downstream of Jennings Randolph Lake 133 adult and 280 YOY brook trout per km, as well as 67 adult rainbow trout and 40 YOY rainbow trout per km.
- Folly Run – 453 adult and 573 YOY brook trout per km.
- Elk Lick Run – 13 adult trout and 120 YOY brook trout per km, as well as 93 adult rainbow trout per km (no YOY). As recently as 1996, this stream was practically fishless due to acid mine drainage. Thanks to the efforts of the Maryland Department of Environment's Abandoned Mine Lands Division, water quality improvements have been made to support wild trout populations.

Elk Lick Run brook trout and wild rainbow trout.

Casselman River Watershed Brook Trout Restoration Project

- Staff participated with GreenVest, Inc. and Canaan Valley Institute as well as private property owners to conduct conservation easement assessments on two properties along the South Branch Casselman River, Big Laurel Run, and Little Laurel Run. These properties have a lot of restoration potential to improve habitat conditions for brook trout in the Casselman River Watershed.
- Staff conducted a qualitative fish survey in Big Laurel Run within a private property under consideration for a conservation easement. No brook trout were collected; however mottled sculpin, creek chub, and blacknose dace were present.

- Staff conducted a qualitative fish survey in an unnamed tributary to the South Branch Casselman River. The stream was fishless due to acidic conditions and is currently being treated with limestone sand.
- Staff placed temperature monitors in the lower reaches of Little Laurel Run, Big Laurel Run, and the South Branch Casselman River to obtain baseline summer temperatures prior to potential riparian restoration projects.

Hoyes Run Trout Monitoring Study - The limestone quarry in the headwater area of Hoyes Run was reclaimed in fall 2015, resulting in less turbid flows during rain events and a more stable flow regime. Wild brook, brown, and rainbow trout were collected with a combined species density of 253 adult trout per km (408/mile) and an amazing 893 YOY per km (1,438/mile!!!) upstream of the confluence of Fork Run. The tributary stream to Fork Run supports a brook trout population at 280 adult and 587 YOY per km.

Hoyes Run wild brook, brown, and rainbow trout.

Herrington Manor Lake - Herrington Manor Lake is now at full pool after the spillway and outlet structure repairs were completed. Seining surveys were conducted to assess fish populations and found abundant numbers of juvenile bluegill and golden shiner. Fish rescues of largemouth bass downstream of the lake proved successful. These fish were returned to the lake and were able to spawn as evidenced by the many small YOY largemouth bass collected or observed. Several juvenile chain pickerel were also collected. A complete fish survey using the electrofishing boat will be conducted in the fall to see if additional fish need to be stocked.

Beaver Creek - Staff conducted trout surveys on Beaver Creek near Hagerstown, MD. These surveys are part of an annual assessment of trout populations following 2003 stream restoration efforts. Six stations in the Put-and-Take and Catch-and-Return areas were sampled with backpack electrofishing to collect data on brown and rainbow trout populations.

High densities of wild brown trout were observed in the stream, with brown trout averaging 1209 per hectare. Adult brown trout averaged 9 inches in length with the largest fish measuring just over 17 inches total length. Favorable temperature and habitat

conditions in Beaver Creek have allowed a healthy reproducing brown trout population to expand, allowing a unique fishing opportunity in Washington County.


(L to R) Western II and Central staff electrofishing Beaver Creek, a wild brown trout.

Smallmouth YOY Seining Surveys - Staff began annual seine surveys to collect YOY smallmouth bass. Seining was conducted at 5 stations on Conococheague Creek and 8 stations on the Monocacy River. The geometric mean number of YOY smallmouth bass per seine haul was 1.68 for Conococheague Creek suggesting an average hatch for 2016. Monocacy River geometric mean number of YOY smallmouth bass per seine haul was 0.17, reflecting a low hatch for this year. YOY smallmouth bass seining has started for 12 stations on the upper Potomac River and will be completed in early August.


(L to R) Western II staff seining the Monocacy River; young-of-year smallmouth bass

Multiple Pass Surveys – Staff conducted multiple pass electrofishing surveys in the following tributaries as part of the brook trout sampling program to assess the status of brook trout populations in the Central Region: Left and Right Forks of Jabez Branch (Anne Arundel Co.), Bush Cabin Run, Bunker Hill tributary and Owl Branch (Baltimore Co.). Multiple year classes of brook trout were found in the Left and Right Forks of Jabez Branch and Bush Cabin Run. Multiple year classes of brown trout were also found in Bush Cabin Run. Two adult brook trout were collected in the Owl Branch site as well as multiple year classes of brown trout. Only multiple year classes of brown trout were collected in the Bunker Hill tributary site. The last brook trout found in the Bunker Hill tributary was a YOY in August of 2013. Single pass qualitative electrofishing surveys

were conducted in the Marriottsville Road tributary (Howard Co.), Stillwater Creek (Carroll Co.) and Fourth Mine Branch (Baltimore Co.). Only Fourth Mine Branch had multiple year classes of brook trout. No trout were found in the Marriottsville Road tributary or Stillwater Creek. A small unnamed tributary to Fourth Mine Branch was also surveyed with no trout found.

A nice "fat" brook trout surveyed in Owl Branch

Upper Deer Creek – Inland personnel assisted staff from the Baltimore County Department of Environmental Protection and Sustainability-Watershed Monitoring Division with a multiple pass electrofishing survey in upper Deer Creek. The property was once owned by the environmental consulting firm Ecotone and has since been sold to a private landowner. An excellent population of brown trout was documented during the survey with multiple year classes from YOY to 14.75" individuals.

Tagged Brook Trout – Staff conducted a radio telemetry search on July 12 for radio tagged brook trout in the upper Gunpowder River above Prettyboy Reservoir. Staff tracked from just above the mouth of Silver Run upstream to River Valley Ranch. Eight tagged brook trout were found in the Gunpowder River mainstem and one tagged brook trout was found approximately 10 meters up Muddy Creek. The two tagged trout found at the mouth of the unnamed tributary at York Road No. 1 on June 22 were at the same location on July 12. Currently, tagged trout #790 from the Gunpowder Road area hasn't been found since March 25, #741 from the Kern Road area hasn't been found since April 8 and #891 that moved from the Gunpowder Road bridge to the Grave Run Road bridge has not been found since May 15. Inland Fisheries staff recommend that any brook trout that are caught by anglers in the upper Gunpowder watershed be handled carefully and released back into the water as quickly as possible. **Upcoming:** Another search will be conducted the last week of July to determine whether the tagged brook trout are moving up the cooler tributaries during this extremely hot period.

Habitat and Water Quality

Environmental Review – Staff provided comments to the Environmental Review Unit (ERU), Maryland Department of Environment (MDE), Maryland State Highway Administration (SHA) or other agencies regarding:

- Two abandoned mine lands reclamation projects in the Frostburg area, both were subsidence issues underneath public roadways. The proposed restoration of these sinking areas posed no aquatic resource concerns.
- Review of a large restoration project planned for Gramies Run, a Big Elk Creek tributary located in Cecil County. The proposed project is being funded by SHA. The proposed restoration area traverses public (Fair Hill Natural Resource Management Area) and private lands.
- The draining of Edgemont Reservoir for dam repairs and the potential actions to address temperature and sediment concerns that may impact trout and other aquatic resources in Little Antietam Creek further downstream.

Lands Stewardship Committee (LSC)

- Staff provided comments on a proposed 5.87 acre land acquisition adjoining Deep Creek State Park. This potential acquisition can provide additional angling access to Deep Creek Lake.
- Staff provided comments on a proposed 51.24 acre land acquisition adjoining Green Ridge State Forest. This property is located in the headwaters of Fifteen Mile Creek and acquisition of this property would provide long-term watershed protection in the upper Potomac Watershed.

Lands Reclamation Committee (LRC) -The LRC voted on strip mine reclamation sites visited in June - six sites were approved while two sites did not meet reclamation standards and will be re-visited in the fall. The committee conducted a field review of a proposed 30 acre face-up site to a deep mine located in the Aarons Run Watershed. The site will leave a minimum 100 ft buffer along the stream, as well as retain all forest cover adjoining the stormwater and water treatment ponds to keep the released water within the 68° F limit. Post-land use will include tree planting of black locust and red pine trees.

Potomac River Algae Sampling – Western II staff conducted seasonal biweekly upper Potomac River algae sampling with Hood College professors and students. The Inland Fisheries Division has partnered with Hood College in addressing toxicity from cyanobacteria blooms in the upper river. Previous data have indicated impacts to aquatic life and microcystin toxin production from a newly defined species of cyanobacteria *Planktothrix isothrix* and a known species *Lyngbya majuscule*. Efforts are underway to attempt to quantify the distribution of cyanobacteria blooms in sections of the upper Potomac River near Brunswick, MD. Researchers from Hood College flew a drone aircraft over a section of river to capture high-resolution digital images for further analysis. A researcher from NOAA accompanied Western II staff to take light measurements from established algae blooms that will aid in interpreting these aerial digital images.


(L to R) Cyanobateria Planktrothrix isothrix collected from the upper Potomac River near Brunswick, MD; aerial imagery data points from drone flight over algae blooms

Stream Class Designations - Inland staff met with representatives of the Maryland Department of the Environment (MDE) regarding potential policy changes in use class re-designations of freshwater streams in Maryland. New use class IV designations were also discussed.

Stream Assessment – Central Region conducted a log jam and strainer assessment at 11 sites in the Gunpowder River tailwater between Prettyboy Reservoir dam and Big Falls Road at the request of Gunpowder Falls State Park managers. Suggestions were provided to the Gunpowder State Park personnel on what logs and strainers should be cut to allow safe passage by kayak or canoe and what woody debris should be saved for trout habitat.

Fish Relocation – Electrofishing was used to collect and relocate all fish species from a 610 m (2000') section of Little Antietam Creek in Washington County prior to dewatering to complete a stream restoration project. The stream will be diverted around the project site while the work is completed. The project, directed by the Washington County Soil Conservation District, will remove a small dam, re-establish a natural stream channel, and re-establish a vegetated riparian area. Approximately 30 wild rainbow trout (~49/km) and nine wild brown trout were relocated along with blacknose dace, longnose dace, pearl dace, fantail darter, blue ridge sculpin, white sucker, common shiner, creek chub, cutlips minnow, and rock bass.

Hughesville Pond, a Fisheries Management Area (FMA) in Charles County, MD, was treated with an algaecide. Nearly every summer, a bloom of filamentous algae occurs within the pond and affects fishing and recreation. Chemical and mechanical removal methods are regularly employed.

Fairview Outdoor School Pond, West II staff applied aquatic herbicide to control hydrilla in this small pond used by the Washington County Board of Education to educate students on aquatic life and habitats.

Brunswick Pond, Burkittsville Pond, the two community fishing ponds in Frederick County were treated with algaecide and herbicide to maintain acceptable conditions for fishing. Both ponds are popular local fishing spots and host youth fishing events during the spring.

Outreach

Junior Rangers Program – Staff conducted a stream macroinvertebrate ecology lesson for ten children participating in the Junior Rangers Program at Deep Creek State Park. The kids waded into Sang Run with kick nets and screen nets and were able to collect mayflies, stoneflies, caddisflies, hellgrammites, and of course the ever popular crayfish! At the end of the lesson – the students were "quizzed" on macroinvertebrate identification and they came to the correct conclusion that Sang Run is a very healthy stream.

Fisheries Tech Kenny Wampler and his Junior Rangers sampling for aquatic macroinvertebrates.

Hispanic Outreach - Inland staff assisted with the Hispanic Outreach Event at Greenbrier State Park on July 24 by giving a demonstration of boat electrofishing on Greenbrier Lake and seining at the public swimming beach. Attendees were shown examples of typical fish species found in Greenbrier Lake and provided information on regulations and stewardship activities at the park.

Smallmouth Bass Fishing - Central staff talked with anglers via telephone and in person concerning smallmouth bass fishing opportunities in the Patapsco River and Monocacy River. Staff were able to get a good smallmouth bass fishing report from an angler in the Monocacy River at Mumma Ford on July 15 who, despite the warm river temperatures and low flow, was able to catch and release two bass at 15-16 inches and lost a bigger one while finessing it with four pound test fishing line.

Smallmouth Bass Tournament – Staff attended the Eastern Panhandle Outdoor Smallmouth Bass Tournament on the upper Potomac River on July 2 at Williamsport, MD. Forty four anglers participated in the fishing tournament with a catch rate of 0.17 smallmouth bass per hour. Staff provided an oxygenated recovery tank for fish and assisted with the release of smallmouth bass back into the Potomac River.

Fish ID – Staff taught fish identification and demonstrated fish sampling techniques, specifically backpack electrofishing, to Anne Arundel County K-12 teachers. The demonstration was held at Arlington Echo (Millersville, MD). Fish species collected included pumpkinseed, white sucker, and American eel among others.

Angler Access

FMA Maintenance - Staff conducted land maintenance, grass mowing, and litter pick-up at the following FMAs: North Branch Potomac River McCoole and Black Oak, Evitts Creek Ponds, and Rising Sun Pond. Staff also removed silt and debris that had clogged the water supply pipe that feeds water to the Rising Sun Pond and a small washout had developed in the dam breast.

Stocking and Population Management

Rainbow Trout - The Youghiogheny River Catch-and-Return Trout Fishing Area received 1,783 surplus Kamloops strain rainbow trout (15.4/lb) from the Mettiki Hatchery. The trout were float stocked throughout the entire stretch of the management area.

Muskellunge – Inland stocked 8,000 Tiger Muskellunge fingerlings to Triadelphia and Rocky Gorge reservoirs (Howard, Montgomery, and Prince George's counties, MD). Each reservoir received approximately 4,000 fish. Recent stocking efforts made possible through cooperation between MD DNR and the Washington Suburban Sanitary Commission (WSSC) have resulted in a popular, developing fishery for the gamefish.

Hybrid Sunfish - Staff transported and stocked 400 hybrid sunfish for two youth rodeo events in Talbot and Worcester Counties.

Invasive Species

Flathead Catfish - On July 20 Western II staff were notified that an angler had caught a citation size flathead catfish fishing below Dam 5 on the upper Potomac River near Clear Spring, MD. Weighing 30 pounds and measuring 37 inches, the fish was the largest flathead catfish DNR has yet seen on the upper Potomac River. The angler was generous enough to allow staff to take measurements, examine the stomach contents, and remove aging structures (otoliths, pectoral spines) from the fish. All of this information will help with work currently underway by DNR to determine the impacts that invasive flathead catfish, which are top-predators in aquatic ecosystems, may be having in the upper Potomac River. To help aid in the control of this invasive species, DNR asks that all anglers remove and kill all flathead catfish that they catch.

Western II American Fisheries Society Intern Kenny Yerardi holding flathead catfish caught by angler from the upper Potomac River

Grass Carp - Following a report that a pond on Izaak Walton League (IWL) property in Harford County contained three large (>36 inches) grass carp (illegal to purchase or stock in Maryland), staff observed the pond for grass carp and accessibility to launch small electrofishing boats for capture and removal. On June 30, Inland Fisheries and Resource Assessment Service staff attempted to remove the grass carp with the use of electrofishing boats. The conductivity of the pond was below 100 µs/cm and the boat generators lacked sufficient power to provide ample current into the pond, so staff were unsuccessful in removing the grass carp after three hours of continuous electrofishing. The use of a gill net across the middle of the pond also failed to capture any of the carp. With no large outlet from the pond or easy access for the grass carp to find their way to the nearest stream (Big Branch), staff are confident the carp will stay in the pond with the understanding that if IWL members catch the fish, they are to humanely kill them.

Blue Catfish – Staff presented a slideshow on blue catfish populations in the tidal freshwater portion of the Potomac River at the Inland Fisheries Division meeting. Blue catfish continue to grow and expand their range in the Potomac River and the Chesapeake Bay Region. Diet samples have shown how opportunistic blue catfish are when foraging for food and they have also shown that these large fish do forage in much shallower water than previously suspected.

Staff crafted responses to several blue catfish anglers who have requested that Maryland DNR impose protections on these fish in order to promote a trophy fishery. This subject has been broached several times in the past but no policy change has been made regarding invasive catfishes. They are still considered an unwanted species that may adversely affect many aquatic species.

Brook Trout Program

Staff focused on summer brook trout population monitoring work in the upper Savage River special regulation area (Garrett County). Just over half of the scheduled work has been completed and staff are on target to be complete the surveys by the end of August. Overall population numbers are excellent and a strong year class of young fish has been documented. Staff has had help from our volunteer student intern and interested anglers, all of whom have been suitably impressed when they see how many fish are actually present in areas they fish. Monitoring work will continue through the end of August.

Anglers Carter and Joe Janney with some beautiful Poplar Lick Brook Trout that they helped collect during annual electrofishing monitoring work.

Carter Janney assisting Brook Trout Program Staff with sampling on Poplar Lick.

Staff cooperated with MBSS staff to conduct a brook trout population survey in Winebrenner Run (Allegany County). Brook trout were re-introduced into Winebrenner in 2012. Multiple year classes were collected, with six fish longer than 8 inches and one over 12.5 inches! The reestablished population is doing very well and now provides an angling resource that had been lost for many years, while helping to conserve and increase the overall brook trout resource in the state.

12.5 inch Winebrenner Run Brook Trout!

Staff met with Joel Dunn of *The Chesapeake Conservancy* to discuss the utility of a new high-resolution land use/land cover data set that they have developed. This data could be extremely beneficial to habitat improvement/restoration projects in the future and for refining predictive models. John Neely of the Sport Fisheries Advisory Commission (SFAC) and Joe Janney from Oracle also participated in the meeting.

Staff presented an update at the July SFAC meeting on the *Statewide Wild Trout Angler Survey* that was conducted this spring. To date over 1100 responses from anglers have been received. Data is being analyzed and a final report will be generated this winter. Preliminary results show strong support from anglers for protecting our brook trout resource statewide and continuing and approving of current regulations in the upper Savage River watershed.

Tidal Bass Program

The first meeting of the Black Bass Advisory Subcommittee was held on 6 July 2016. For additional information on the happenings, please visit: http://dnr2.maryland.gov/fisheries/Pages/mgmt-committees/bbas-index.aspx.

Staff developed a Fish Forage Index that uses data collected for multiple species during fall surveys. This index helps identify areas with a diverse forage assemblage for largemouth bass. It will be available on the Survey Data map, on-line at: http://dnr2.maryland.gov/fisheries/pages/bass/recreational.aspx.

To help serve black bass tournament directors better, the Tidal Bass Program worked with partners to post additional information regarding Smallwood State Park, Elk Neck State Park, Deep Creek and Rocky Gap, and Anchor Marine on the tournament webpage: http://dnr2.maryland.gov/fisheries/pages/bass/ta.aspx

Tidal Bass staff met with the Office of Communications to develop a series of bass conservation videos that will be a collaborative product from the Department, Maryland Bass Nation, and Bass Angler's Sportsmen Society. Videos were scripted and will be produced in early August. They will be posted on-line and available as outreach material for fall 2016.

Staff initiated a survey of YOY largemouth bass in the tidal Potomac River. The survey aims to compare recent findings with previous surveys, and to monitor reproductive success of largemouth bass during spring 2016. The river was sampled from Oxon Creek, Potomac River (near the Washington, D.C. – Maryland border) down to Mallows Bay (Charles County, MD), and included major tributaries important to largemouth bass (e.g., Piscataway Creek, Mattawoman Creek, and Chicamuxin Creek). Though the survey is not complete, many YOY largemouth bass were observed and collected thus far.

A boat equipped with an electrofisher is used to sample YOY bass

Largemouth bass YOY